

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**VOSSCHEMIE**

## Carsystem Zink Spray

Version		Revision Date:	Date of last issue: 05.02.2021
2.1	GB / EN	01.07.2021	Date of first issue: 26.09.2019

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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : Carsystem Zink Spray

Product code : 126.030

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-  
stance/Mixture : Corrosion inhibitor

Recommended restrictions  
on use : Industrial use, professional use, public use

#### 1.3 Details of the supplier of the safety data sheet

Company : Vosschemie GmbH  
Esinger Steinweg 50  
25436 Uetersen  
Germany  
  
info@vosschemie.de

Telephone : 04122 717 0  
Telefax : 04122 717158

**Responsible Department** : Laboratory  
  
04122 717 0  
sds@vosschemie.de

#### 1.4 Emergency telephone number

Telephone : Giftinformationszentrum (GIZ)-Nord,  
Göttingen, Deutschland  
0551 19240

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### SECTION 2: Hazards identification


#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Aerosols, Category 1	H222: Extremely flammable aerosol. H229: Pressurised container: May burst if heated.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H410 Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	:	EUH066 Repeated exposure may cause skin dryness or cracking.  Buildup of explosive mixtures possible without sufficient ventilation.
Precautionary statements	:	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children.  <b>Prevention:</b> P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use.

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P260 Do not breathe spray.

### Storage:

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

### Disposal:

P501 Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

### Hazardous components which must be listed on the label:

acetone  
Hydrocarbons, C9, Aromatics

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : aerosol

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
zinc powder -zinc dust (stabilised)	7440-66-6 231-175-3 030-001-01-9 01-2119467174-37	Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 25 - < 50
acetone	67-64-1 200-662-2 606-001-00-8 01-2119471330-49	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 (Central nervous	>= 12.5 - < 20

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		system) EUH066	
Hydrocarbons, C9, Aromatics	Not Assigned 918-668-5 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	$\geq 10 - < 12.5$
Reaction mass of ethylbenzene and xylene	Not Assigned 905-588-0 01-2119486136-34, 01-2119488216-32	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) STOT RE 2; H373 Asp. Tox. 1; H304	$\geq 5 - < 10$
zinc oxide	1314-13-2 215-222-5 030-013-00-7 01-2119463881-32	Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Chronic aquatic toxicity): 1	$\geq 1 - < 2.5$
Substances with a workplace exposure limit :			
dimethyl ether	115-10-6 204-065-8 603-019-00-8 01-2119472128-37	Flam. Gas, Press. Gas 1, Compr. Gas; H220	$\geq 12.5 - < 20$

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice : First aider needs to protect himself.  
Remove from exposure, lie down.  
If unconscious, place in recovery position and seek medical  
advice.  
Take off contaminated clothing and shoes immediately.  
Symptoms of poisoning may appear several hours later.

If inhaled : Move to fresh air.  
If symptoms persist, call a physician.

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- In case of skin contact : Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
- In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
- If swallowed : Swallowing is not regarded as a possible method for exposure. If symptoms persist, call a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

- Risks : Causes serious eye irritation.  
May cause drowsiness or dizziness.  
Repeated exposure may cause skin dryness or cracking.

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Dry powder  
Water spray jet  
Alcohol-resistant foam
- Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Vapours may form explosive mixtures with air.  
Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.
- Hazardous combustion products : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : Use personal protective equipment. Wear suitable respiratory protection equipment.
- Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
Use water spray to cool unopened containers.  
In the event of fire and/or explosion do not breathe fumes.

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Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear personal protective equipment.  
Evacuate personnel to safe areas.  
Remove all sources of ignition.  
Ensure adequate ventilation.  
Avoid inhalation of vapour or mist.  
Avoid contact with skin, eyes and clothing.

#### 6.2 Environmental precautions

Environmental precautions : Should not be released into the environment.  
If the product contaminates rivers and lakes or drains inform respective authorities.

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Ventilate the area.  
Keep in suitable, closed containers for disposal.

#### 6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Local/Total ventilation : Ensure adequate ventilation.

Advice on safe handling : Pressurized container: Protect from sunlight and do not expose to temperatures exceeding 50°C / 122 °F. Also after use, do not open with force or burn.  
Provide sufficient air exchange and/or exhaust in work rooms.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.  
Keep away from open flames, hot surfaces and sources of ignition. Keep away from direct sunlight.

Hygiene measures : Do not inhale aerosol.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Please observe the storage instructions for aerosols! Keep containers tightly closed in a cool, well-ventilated place. Solvent vapours are heavier than air and may spread along floors. Keep away from direct sunlight. Keep away from heat and sources of ignition.

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Further information on storage conditions : Storage must be in accordance with the BetrSichV (Germany).

Advice on common storage : Keep away from food and drink.

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
acetone	67-64-1	TWA	500 ppm 1,210 mg/m <sup>3</sup>	2000/39/EC
		Further information: Indicative		
		TWA	500 ppm 1,210 mg/m <sup>3</sup>	GB EH40
		STEL	1,500 ppm 3,620 mg/m <sup>3</sup>	GB EH40
dimethyl ether	115-10-6	TWA	1,000 ppm 1,920 mg/m <sup>3</sup>	2000/39/EC
		Further information: Indicative		
		TWA	400 ppm 766 mg/m <sup>3</sup>	GB EH40
		STEL	500 ppm 958 mg/m <sup>3</sup>	GB EH40
butane (containing < 0,1 % butadiene (203-450-8))	106-97-8	STEL	750 ppm 1,810 mg/m <sup>3</sup>	GB EH40
		Further information: Capable of causing cancer and/or heritable genetic damage.		
		TWA	600 ppm 1,450 mg/m <sup>3</sup>	GB EH40
		Further information: Capable of causing cancer and/or heritable genetic damage.		

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
zinc powder -zinc dust (stabilised)	Workers	Inhalation	Long-term systemic effects	5 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	83 mg/kg
	Consumers	Inhalation	Long-term systemic effects	2.5 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	83 mg/kg
	Consumers	Oral	Long-term systemic	0.83 mg/kg

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			effects	
acetone	Workers	Inhalation	Long-term systemic effects	1210 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	2420 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	186 mg/kg
	Consumers	Inhalation	Long-term systemic effects	200 mg/m <sup>3</sup>
	Consumers	Skin contact, Oral	Long-term systemic effects	62 mg/kg
zinc oxide	Workers	Inhalation	Long-term systemic effects	5 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	83 mg/kg
	Consumers	Inhalation	Long-term systemic effects	2.5 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	83 mg/kg
	Consumers	Oral	Long-term systemic effects	0.83 mg/kg

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
zinc powder -zinc dust (stabilised)	Fresh water	0.02 mg/l
	Marine water	0.006 mg/l
	Sewage treatment plant	0.1 mg/l
	Fresh water sediment	117.8 mg/kg
	Marine sediment	56.5 mg/kg
	Soil	35.6 mg/kg
acetone	Fresh water	10.6 mg/l
	Marine water	1.06 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	30.4 mg/kg
	Marine sediment	3.04 mg/kg
	Soil	29.5 mg/kg
zinc oxide	Fresh water	0.0206 mg/l
	Marine water	0.0061 mg/l
	Sewage treatment plant	0.1 mg/l
	Fresh water sediment	117.8 mg/kg
	Marine sediment	56.5 mg/kg
	Soil	35.6 mg/kg

## 8.2 Exposure controls

### Personal protective equipment

Eye protection : Tightly fitting safety goggles  
Safety glasses with side-shields conforming to EN166

### Hand protection

Material : butyl-rubber  
Break through time : > 480 min



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Glove thickness :  $\geq 0.4$  mm  
Directive : DIN EN 374  
Protective index : Class 6

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed. Preventive skin protection

Skin and body protection : Please wear suitable protective clothing, e.g. made of cotton or heat-resistant synthetic fibres.  
Long sleeved clothing

Respiratory protection : No personal respiratory protective equipment normally required.  
In case of inadequate ventilation wear respiratory protection.  
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Filter type : Filter type A-P

Protective measures : Use only with adequate ventilation.  
When using do not eat, drink or smoke.  
Avoid contact with skin, eyes and clothing.  
Do not breathe vapours or spray mist.

### Environmental exposure controls

Soil : Avoid subsoil penetration.  
Water : Do not flush into surface water or sanitary sewer system.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state : aerosol  
Colour : grey  
Odour : characteristic  
Melting point/freezing point : not determined  
Initial boiling point and boiling range : Not applicable  
Upper explosion limit / Upper flammability limit : 26.2 %(V)  
Lower explosion limit / Lower flammability limit : 2.6 %(V)  
Flash point : Not applicable

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Ignition temperature	: 240 °C
pH	: not determined substance/mixture is non-soluble (in water)
Viscosity	
Viscosity, dynamic	: not determined
Viscosity, kinematic	: not determined
Solubility(ies)	
Water solubility	: immiscible
Vapour pressure	: 4,000 hPa (20 °C)
Density	: 1.0 g/cm <sup>3</sup> (20 °C)

### 9.2 Other information

Self-ignition	: not auto-flammable
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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if used as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions	: Vapours may form explosive mixture with air.
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### 10.4 Conditions to avoid

Conditions to avoid	: Keep away from heat and sources of ignition. Strong sunlight for prolonged periods.
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### 10.5 Incompatible materials

Materials to avoid	: No data available
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### 10.6 Hazardous decomposition products

Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

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## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Not classified based on available information.

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### Product:

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg  
Method: Calculation method

### Components:

#### **zinc powder -zinc dust (stabilised):**

Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5.41 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity

#### **acetone:**

Acute oral toxicity : LD50 Oral (Rat): 5,800 mg/kg

Acute inhalation toxicity : LC50 (Rat): ca. 132 mg/l  
Exposure time: 3 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 Dermal (Rabbit): > 7,426 mg/kg

#### **Hydrocarbons, C9, Aromatics:**

Acute oral toxicity : LD50 Oral (Rat, female): ca. 3,492 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6.193 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 Dermal (Rabbit): > 3,160 mg/kg  
Method: OECD Test Guideline 402

#### **Reaction mass of ethylbenzene and xylene:**

Acute oral toxicity : LD50 Oral (Rat): 3,523 - 4,000 mg/kg  
Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)

Acute inhalation toxicity : LC50 (Rat, male): 6350 - 6700 ppm

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Exposure time: 4 h  
Test atmosphere: vapour  
Method: Regulation (EC) No. 440/2008, Annex, B.2

Acute dermal toxicity : LD50 Dermal (Rabbit): 12,126 mg/kg

### **zinc oxide:**

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401

### **Skin corrosion/irritation**

Repeated exposure may cause skin dryness or cracking.

### **Components:**

#### **Hydrocarbons, C9, Aromatics:**

Result : Repeated exposure may cause skin dryness or cracking.

#### **Reaction mass of ethylbenzene and xylene:**

Result : Skin irritation

### **Serious eye damage/eye irritation**

Causes serious eye irritation.

### **Components:**

#### **Reaction mass of ethylbenzene and xylene:**

Result : Moderate eye irritation

### **Respiratory or skin sensitisation**

#### **Skin sensitisation**

Not classified based on available information.

#### **Respiratory sensitisation**

Not classified based on available information.

#### **Germ cell mutagenicity**

Not classified based on available information.

### **Components:**

#### **Hydrocarbons, C9, Aromatics:**

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

### **Carcinogenicity**

Not classified based on available information.

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### Components:

#### **Hydrocarbons, C9, Aromatics:**

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

#### **Reproductive toxicity**

Not classified based on available information.

#### **STOT - single exposure**

May cause drowsiness or dizziness.

### Components:

#### **Hydrocarbons, C9, Aromatics:**

Assessment : May cause respiratory irritation., May cause drowsiness or dizziness.

#### **Reaction mass of ethylbenzene and xylene:**

Assessment : May cause respiratory irritation.

#### **STOT - repeated exposure**

Not classified based on available information.

### Components:

#### **Reaction mass of ethylbenzene and xylene:**

Assessment : May cause damage to organs through prolonged or repeated exposure.

#### **Aspiration toxicity**

Not classified based on available information.

### Components:

#### **Hydrocarbons, C9, Aromatics:**

May be fatal if swallowed and enters airways.

#### **Reaction mass of ethylbenzene and xylene:**

May be fatal if swallowed and enters airways.

## 11.2 Information on other hazards

### **Endocrine disrupting properties**

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

##### Components:

##### **zinc powder -zinc dust (stabilised):**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.169 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 0.147 mg/l  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : IC50 (Selenastrum capricornutum (green algae)): 0.136 mg/l  
Exposure time: 72 h
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to microorganisms : EC50 (Bacteria): 5.2 mg/l  
Exposure time: 3 h
- Toxicity to fish (Chronic toxicity) : NOEC: 0.44 mg/l  
End point: mortality  
Exposure time: 72 d  
Species: Oncorhynchus mykiss (rainbow trout)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.03 mg/l  
Exposure time: 50 d  
Species: Daphnia magna (Water flea)
- M-Factor (Chronic aquatic toxicity) : 1

##### **acetone:**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 8,120 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 8,800 mg/l  
End point: mortality  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : NOEC (Microcystis aeruginosa (blue-green algae)): 430 mg/l  
Exposure time: 96 h
- Toxicity to microorganisms : EC10 (Bacteria): 1,000 mg/l  
Exposure time: 0.5 h  
Method: OECD Test Guideline 209
- Toxicity to daphnia and other : NOEC: 2,212 mg/l

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aquatic invertebrates (Chronic toxicity) : Exposure time: 28 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

### Hydrocarbons, C9, Aromatics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3.2 mg/l  
End point: Immobilization  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): 1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOELR: 1.228 mg/l  
Exposure time: 28 d  
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: 2.144 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

### Reaction mass of ethylbenzene and xylene:

Toxicity to fish : LC50 (Fish): 2.6 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia dubia (water flea)): 1 mg/l  
Exposure time: 24 h  
Method: OECD Test Guideline 202

EC50 (Daphnia dubia (water flea)): 165 mg/l  
Exposure time: 24 h

Toxicity to algae/aquatic plants : EC50 (algae): 2.2 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

IC50 (algae): 1 - 10 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Bacteria): 1 - 10 mg/l

### Ecotoxicology Assessment

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

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### zinc oxide:

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): 3.31 mg/l  
End point: mortality  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 0.76 mg/l  
End point: mortality  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : IC50 (Pseudokirchneriella subcapitata (green algae)): 0.136 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50 (Bacteria): > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209
- Toxicity to fish (Chronic toxicity) : NOEC: 0.44 mg/l  
End point: mortality  
Exposure time: 72 d  
Species: Oncorhynchus mykiss (rainbow trout)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.058 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211
- M-Factor (Chronic aquatic toxicity) : 1

## 12.2 Persistence and degradability

### Components:

#### acetone:

- Biodegradability : Biodegradation: 90.9 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

#### Hydrocarbons, C9, Aromatics:

- Biodegradability : Result: Readily biodegradable.  
Biodegradation: 78 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

## 12.3 Bioaccumulative potential

### Components:

#### zinc powder -zinc dust (stabilised):



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Partition coefficient: n-octanol/water : No data available

### **acetone:**

Bioaccumulation : Bioconcentration factor (BCF): 3

Partition coefficient: n-octanol/water : log Pow: -0.24 (20 °C)

### **Reaction mass of ethylbenzene and xylene:**

Partition coefficient: n-octanol/water : log Pow: 3.2 (20 °C)

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

#### **Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### **12.6 Endocrine disrupting properties**

#### **Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### **12.7 Other adverse effects**

#### **Product:**

Additional ecological information : No data available

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## **SECTION 13: Disposal considerations**

### **13.1 Waste treatment methods**

Product : According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Dispose of in conjunction with appropriate waste disposal authorities and in accordance with disposal regulations.

Contaminated packaging : Dispose of in accordance with local regulations.

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Waste Code : The following Waste Codes are only suggestions:  
08 01 11, waste paint and varnish containing organic solvents  
or other hazardous substances  
150104, metallic packaging  
15 01 11, metallic packaging containing a hazardous solid  
porous matrix (for example asbestos), including empty pres-  
sure containers

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### SECTION 14: Transport information

#### 14.1 UN number or ID number

ADN : UN 1950  
ADR : UN 1950  
RID : UN 1950  
IMDG : UN 1950  
IATA : UN 1950

#### 14.2 UN proper shipping name

ADN : AEROSOLS  
ADR : AEROSOLS  
RID : AEROSOLS  
IMDG : AEROSOLS  
(ZINC DUST, zinc oxide)  
IATA : Aerosols, flammable

#### 14.3 Transport hazard class(es)

ADN : 2  
ADR : 2  
RID : 2  
IMDG : 2.1  
IATA : 2.1

#### 14.4 Packing group

**ADN**  
Packing group : Not assigned by regulation  
Classification Code : 5F  
Labels : 2.1

**ADR**  
Packing group : Not assigned by regulation  
Classification Code : 5F  
Labels : 2.1  
Tunnel restriction code : (D)

**RID**  
Packing group : Not assigned by regulation

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Classification Code : 5F  
Hazard Identification Number : 23  
Labels : 2.1

### IMDG

Packing group : Not assigned by regulation  
Labels : 2.1  
EmS Code : F-D, S-U

### IATA (Cargo)

Packing instruction (cargo aircraft) : 203  
Packing instruction (LQ) : Y203  
Packing group : Not assigned by regulation  
Labels : Division 2.1 - Flammable gases

### IATA (Passenger)

Packing instruction (passenger aircraft) : 203  
Packing instruction (LQ) : Y203  
Packing group : Not assigned by regulation  
Labels : Division 2.1 - Flammable gases

## 14.5 Environmental hazards

### ADN

Environmentally hazardous : yes

### ADR

Environmentally hazardous : yes

### RID

Environmentally hazardous : yes

### IMDG

Marine pollutant : yes

## 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

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REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

Acquisition, introduction, possession or use of the explosive precursor by the general public is subject to reporting obligations. acetone (ANNEX II)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. P3a FLAMMABLE AEROSOLS

E1 ENVIRONMENTAL HAZARDS

Volatile organic compounds : Directive 2004/42/EC  
Volatile organic compounds (VOC) content: < 840 g/l  
VOC content for the product in a ready to use condition.

### 15.2 Chemical safety assessment

A chemical safety assessment according to (EC) regulation 1907/2006 (REACH) has not been carried out for this product.

## SECTION 16: Other information

### Full text of H-Statements

H220	: Extremely flammable gas.
H225	: Highly flammable liquid and vapour.
H226	: Flammable liquid and vapour.
H304	: May be fatal if swallowed and enters airways.
H312	: Harmful in contact with skin.
H315	: Causes skin irritation.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H373	: May cause damage to organs through prolonged or repeated exposure.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.
EUH066	: Repeated exposure may cause skin dryness or cracking.

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### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
Eye Irrit.	: Eye irritation
Flam. Gas	: Flammable gases
Flam. Liq.	: Flammable liquids
Press. Gas	: Gases under pressure
Skin Irrit.	: Skin irritation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
2000/39/EC	: Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA	: Limit Value - eight hours
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	: Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

**Classification of the mixture:**

**Classification procedure:**

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Aerosol 1	H222, H229	Calculation method
Eye Irrit. 2	H319	Calculation method
STOT SE 3	H336	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.